Further advantages and details of the invention will be apparent from the detailed description below and in conjunction with the drawings in which:";

In the Claims

Please amend the Claims as follows:

Delete Claims 1-17.

Add the following new Claims:

18. A circuit apparatus for evaluating an acceleration sensor on the Ferraris principle, comprising an inductive measurement head, in which, with a movable Ferraris disk, essentially over a principal magnetic field, and which yields an acceleration-dependent quantity, further comprising an additional direct-current magnetic field excitation circuit having triggering means to cause the additional direct-current magnetic field to act compensatingly on an eddy-current field occurring from a higher rotational speed of the Ferraris disk on an excitation coil delivering a direct-current magnetic field compensating the occurring eddy-current field, said excitation coil being traversed by a direct current controlled by the direct-current magnetic field excitation circuit, further comprising a magnetic field sensor provided for measurement of a magnetic field in the sensor, said sensor outputting a signal for regulating the current through the excitation coil.

19. The circuit apparatus according to claim 1, wherein the magnetic field sensor is configured as a Hall sensor or XMR sensor.

20. The circuit apparatus according to claim 18, wherein, in terms of the measurement of the magnetic field sensor a magnetic field in a vortex is regulable to a preassignable value, including zero.

21. The circuit apparatus according to claim 18, further comprising a detector coil to detect a voltage induced by the magnetic field of the acceleration sensor, including a field in a vortex.

22. The circuit apparatus according to claim 18, wherein, a quantity proportional to a voltage induced by the magnetic field of the acceleration sensor, including the magnetic field in a vortex, is generated by a means of differentiating the said magnetic field.

23. The circuit apparatus according to claims 21 and 22, wherein the direct current yields a low-frequency component of the acceleration, and the voltage induced by the magnetic field of the acceleration sensor, including the magnetic field in the vortex, or the quantity proportional thereto, yields a high-frequency component of the acceleration, and the two signals are combinable to a broad-band acceleration signal.

24. The circuit apparatus according to claim 20, wherein, by addition of a measured value of the magnetic field sensor to the compensation current, a broad-band value proportional to the rotational speed is determinable.

25. A digitally controlled machine tool, comprising an acceleration sensor according to the Ferraris principle, and an evaluating circuit according to claim 18.